

# COLBY OSTBERG

University of California, Riverside  
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## EDUCATION & INTERNSHIPS

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### Education

PhD in Geological Sciences (Expected Graduation: Summer 2023)

Department of Earth and Planetary Science

**University of California, Riverside — Riverside, CA** *September 2018 - Present*

Bachelor of Science in Physics

Physics and Astronomy Department

**San Francisco State University — San Francisco, CA** *August 2014 - June 2018*

### Internships

JPL Year-Round Internship Program

Using new lithospheric thickness values for Venus to update heat flow estimates

Advisor: Suzanne Smrekar

**NASA Jet Propulsion Laboratory — Pasadena, CA** *November 2019 - November 2020*

JPL Summer Internship Program

Constraining the thickness of Venus' elastic lithosphere

Advisor: Suzanne Smrekar

**NASA Jet Propulsion Laboratory — Pasadena, CA** *Summer 2019*

## SCIENTIFIC INTERESTS

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- **Generating Earth and Venus Transit Spectra:** Using the Planetary Spectrum Generator (PSG) to produce transmission spectra for a variety of different exo-Earths and exo-Venuses.
- **Simulating JWST Observations of Exoplanets:** Using Pandexo, I have been modelling JWST transit observations of exo-Earths and exo-Venuses.
- **Coupling Climate Models with PSG:** Data from climate models, such as ROCKE-3D or the Virtual Planet Simulator, can be used as inputs to PSG to make transit spectra more applicable to a given exoplanet.
- **Retrieval Models** I plan to become proficient with retrieval models (i.e. TAUREX, NEMESIS, CHIMERA) that are used to infer abundance and structure information from transit spectra.

## PUBLICATIONS

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“Predicting the Yield of Potential Venus Analogs from *TESS* and their Potential for Atmospheric Characterization”

**C. Ostberg**, S.R. Kane, *Astronomical Journal*

“Science Extraction from *TESS* Observations of Known Exoplanet Hosts”

S.R. Kane, Z. Li, E.T. Wolf, **C.M. Ostberg**, M.L. Hill, (2021), *Astronomical Journal*

“Venus has a locally thin lithosphere with active small upwellings and extension”  
S.E. Smrekar, **C.M. Ostberg**, J.G. O’Rourke, (2021), Science (Submitted)

“A Global Survey of Lithospheric Flexure at Steep-Sided Domical Volcanoes on Venus Reveals Intermediate Elastic Thicknesses”  
M.E. Borelli, J.G. O’Rourke, S.E. Smrekar, **C.M. Ostberg**, (2021), JGR Planets

“Transits of Known Planets Orbiting a Naked-eye Star”  
S.R. Kane, [et al, including **C.M. Ostberg**] (2020), Astronomical Journal

“Science Extraction from TESS Observations of Known Exoplanet Hosts”  
S.R. Kane, J.L. Bean, T.L. Campante, P.A. Dalba, T. Fetherolf, T. Mocnik, **C.M. Ostberg**, J. Pepper, E.R. Simpson, M.C. Turnbull, G.R. Ricker, R. Vanderspek, D.W. Latham, S. Seager, J.N. Winn, J.M. Jenkins, D. Huber, W.J. Chaplin, (2020), PASP

## FELLOWSHIPS & COMPETITIVE AWARDS

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- **Outstanding Student Presentation Award**, American Geophysical Union Fall 2019 Meeting
- **Dean’s Distinguished Fellowship Award**, UC Riverside (2018-2023)
- **NASA Astrobiology Institute Student Travel Stipend**, Astrobiology Science Conference 2019
- **Venus Exploration and Analysis Group (VEXAG) Travel Stipend**, 17th Meeting of VEXAG 2019
- **VEXAG Travel Stipend**, Exoplanets in our Backyard 2020

## CONFERENCES AND MEETINGS

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### Talks

”Identifying Potential Venus Analogs from Exoplanet Discoveries”

**C. Ostberg**, S.R. Kane

American Geophysical Union Fall 2019 Meeting (Abstract ID: 517488), San Francisco, CA

**Posters** ”Surprising Similarities: Comparing the Transit Spectra of Potential Earth-Like and Venus-Like Exoplanets”

**C.M. Ostberg**, S.R. Kane, P.A. Dalba

AGU Fall Meeting 2021

”Identifying Potential Venus Analogs from Exoplanet Discoveries”

**C. Ostberg**, S.R. Kane

Extreme Solar Systems IV, Reykjavick, Iceland

”Understanding Venus’ Interior Processes as a Control Case for the Evolution of Earth and Earth-sized Exoplanets”

S. Smrekar, V. Auerbach, **C. Ostberg**, J.G. O’Rourke, A. Davaille

American Geophysical Union Fall 2019 Meeting (Abstract ID: 589674), San Francisco, CA

### Other

**Session Chair** at Exoplanets in our Backyard 2020

## **EDUCATIONAL EXPERIENCE**

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**Graduate Teaching Assistant:** I have led discussion sections in 3 courses: Oceanography, Planetary Habitability, and Planets in Science Fiction.

**SFSU Campus Academic Outreach Program Tutor:** I tutored undergraduate students to increase their skills in calculus and physics, and led short lectures which focused on areas of common weakness